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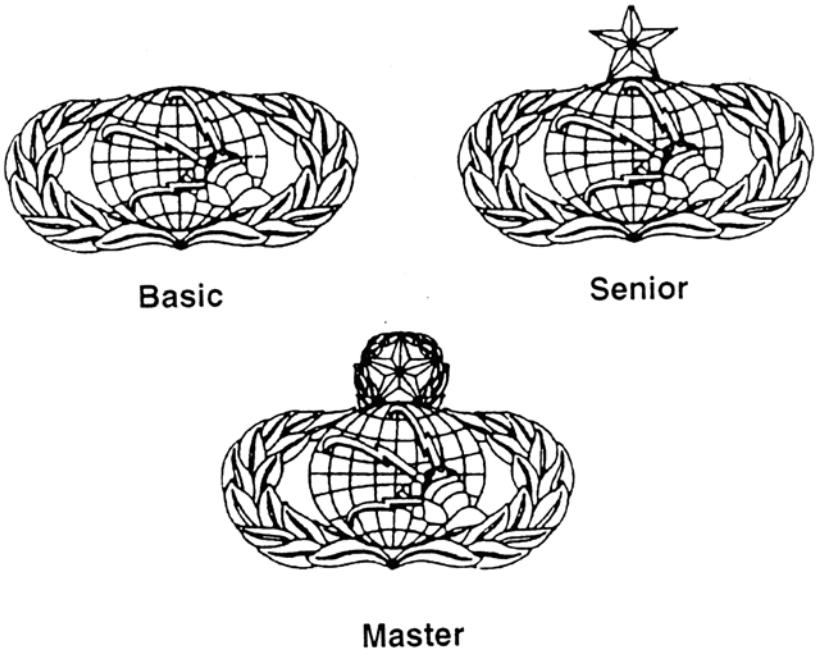
COMMUNICATIONS-COMPUTER SYSTEMS PROGRAMMING



CAREER FIELD EDUCATION AND TRAINING PLAN

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COMMUNICATIONS-COMPUTER SYSTEMS PROGRAMMING
AFSC 3C0X2
CAREER FIELD EDUCATION AND TRAINING PLAN

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COMMUNICATIONS-COMPUTER SYSTEMS PROGRAMMING
AFSC 3C0X2
CAREER FIELD EDUCATION AND TRAINING PLAN

PART I

Preface

1. The changing Command, Control, Communications, Computer, and Intelligence (C4I) and Expeditionary Aerospace Forces (EAF) environments require vision, preparation, and attention to ensure people have the right skills and tools to deliver the C4I capabilities and the support required by the war fighter in meeting the Air Force mission of today and the vision of the future. Declining resources, expanding diversity of mission, and ever-changing technologies in the Air Force are impacting the availability of our most valuable resource--people. These factors will continue to exist in the future, making it essential for the work force to be effectively and efficiently trained to perform duties within each skill level of an Air Force Specialty (AFS). To meet the challenges of tomorrow, the Air Force must place a greater emphasis on career field training. This Communications-Computer Systems Programming Career Field Education and Training Plan (CFETP) is a comprehensive core training document that identifies life-cycle training/education requirements, support resources, and minimum core task requirements for the 3C0X2 specialty. The plan is a "training road map" for the career field. It provides personnel a clear career path to success and makes career field training identifiable, measurable, and budget defensible.

2. The CFETP documents the career field training program and consists of two parts. Management uses both parts to plan, manage, and control training within the career field.

2.1. Part I, Section A provides the information necessary for overall management of training in the career field. It contains administrative details and explains the purpose and use of the CFETP. Section B provides a description of the specialty, suggests career field progression, provides career field information, documents training decisions, defines each skill level, and identifies MAJCOM continuation training options. Section C specifies qualification requirements for upgrade/progression in each subsequent skill level in the career field. It also identifies sources of training other than those provided by Air Education and Training Command (AETC). Section D identifies known resource constraints. Section E identifies transition training requirements.

2.2. Part II, Section A identifies the Specialty Training Standard (STS) and includes duties, tasks, technical references, Air Education and Training Command (AETC) conducted training, core tasks, and correspondence course requirements. Section B contains the course objective list/training standard supervisors use to determine if airmen satisfied training requirements. Section C contains support material relevant across the specialty including Air Force Job Qualification Standards/Air Force Qualification Training Packages (AFJQS/AFQTP). Section D lists all mandatory Air Force in-residence, field, Air Force Institute for Advanced Distributed Learning (AFIADL), and exportable courses used to support training for this specialty. Section E is used to identify MAJCOM unique requirements. Supervisors and trainers at the unit level use Part I, Section C, and Part II of the CFETP to identify, plan, and conduct unit level training commensurate with the overall goals of this plan.

3. Use of the guidance provided in this CFETP provides the foundation for effective and efficient training for individuals in this career field at the appropriate points in their careers. This plan enables the Air Force to train today's work force for tomorrow's jobs.

Abbreviations/Terms Explained

This section provides a common understanding of the terms that apply to the Communications-Computer Systems Programming Career Field and Education Training Plan.

Advanced Training (AT). A formal course of training that leads to a technical or supervisory level of an AFS. Training is for selected airmen at the advanced level of an AFS.

Air Force Enlisted Classification Directory (AFECD). The official directory for all military enlisted classification descriptions, codes, and identifiers. Establishes the occupational structure of the Air Force enlisted force. The occupational structure is flexible to permit enlisted personnel to specialize and develop their skills and abilities while allowing the Air Force to meet changing mission requirements. Individual enlisted personnel have a joint responsibility with commanders and supervisors at all levels to fully develop their abilities consistent with Air Force needs and within the established patterns of specialization. Replaces AFI 36-2108.

Air and Space Expeditionary Force (AEF). An organizational structure composed of force packages of capabilities that provide warfighting combatant commanders with rapid and responsive air and space power. The AEF concept utilizes 10 individual force packages and are designated AEFs one through ten. The ten AEFs together with their support and command and control elements are tailored to meet specific combatant commanders' requirements across the spectrum of response options. An AEF, by itself, is not a deployable or employable entity. Rather, AEFs deploy within an AETF as air and space expeditionary wings, groups, or squadrons.

Air and Space Expeditionary Task Force. A deployed numbered air force (NAF) or command echelon immediately subordinate to a NAF provided as the US Air Force component command committed to a joint operation.

Air Education Training Command (AETC). Responsible for the recruiting, training and education of Air Force personnel. AETC also provides pre-commissioning, professional military, and continuing education.

Air Force Career Field Manager (AFCFM). Representative appointed by the respective HQ USAF Deputy Chief of Staff or Under Secretariat to ensure that assigned AF specialties are trained and utilized to support AF mission requirements.

Air Force Institute for Advanced Distributed Learning (AFIADL). The result of a merger between the Air Force Distance Learning Office and the Extension Course Institute.

Air Force Job Qualification Standard (AFJQS). A comprehensive task list that describes a particular job type or duty position. Supervisors use the AFJQS to document task qualification. The tasks on AFJQSs are common to all persons serving in the described duty position.

Air Force Qualification Training Package (AFQTP). An instructional course designed for use at the unit to qualify or aid qualification in a duty position, program, or on a piece of equipment. It may be printed, computer-based, or other audiovisual media.

Air Force Specialty (AFS). A group of positions (with the same title and code) that require common qualifications.

Air Force Tactics, techniques and Procedures (AFTTP). Air Force technical training publication. Source: JP 1-02(Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms)

Career Field Education and Training Plan (CFETP). A CFETP is a comprehensive core training document that identifies: life-cycle education and training requirements; training support resources, and minimum core task requirements for a specialty. The CFETP aims to give personnel a clear path and

instill a sense of industry in career field training. CFETPs are officially posted at http://www.e-publishing.af.mil/

Certification. A formal indication of an individual's ability to perform a task to required standards.

Certifying Official. A person assigned by the commander to determine an individual's ability to perform a task to required standards.

Command, Control, Communications, Computer, and Intelligence (C4I). Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control through all phases of the operational continuum. C4 systems include base visual information support systems. (Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms)

Command, Control, Communications, Computer, Intelligence and Reconnaissance (C4ISR). Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control through all phases of the operational continuum. C4 systems include base visual information support systems. (Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms)

Communications - Computer Systems (C-CS). The facilities, equipment, communications, procedures, and personnel essential to a commander for planning, directing, and controlling operations of assigned forces pursuant to the missions assigned.

Communications-Computer Systems Training Advisory Group (CTAG). Chaired by the HQ USAF C-CS AFCFM and attended by the C-CS MAJCOM, selected DRU's and FOA functional managers. The CTAG sets training goals and priorities, reviews training programs, and evaluates emerging training technologies. The group meets, as required, to prioritize training product development.

Computer Based Training (CBT). A forum for training in which the student learns via a computer terminal. It is an especially effective training tool that allows the students to practice applications while they learn.

Continuation Training. Additional advanced training that exceeds the minimum upgrade training requirements and emphasizes present or future duty assignments.

Core Task. A task AFCFMs identify as a minimum qualification requirement for everyone within an AFSC, regardless of duty position. Core task may be specified for a particular skill level or in general across the AFSC. Guidance for using core task can be found in the applicable CFETP narrative.

Course Objective List (COL). A publication derived from initial/advanced skills Course Training Standard (CTS), identifying the tasks and knowledge requirements and respective standards provided to achieve a 3-skill level in this career field. Supervisors use the COL to assist in conducting graduate evaluations in accordance with AFI 36-2201, vol 1 thru 6, *Air Force Training program*.

Course Training Standard (CTS). A standard developed for all courses not governed by an STS, including specialized training packages and computer-based training courses.

Critical Tasks - Critical Tasks are tasks that require specific training and certification above and beyond other tasks. Tasks may be defined as critical either through AFI, Technical Orders, higher headquarters, or at any level in the unit.

Direct Reporting Unit (DRU) - Air Force subdivisions directly subordinate to the CSAF. A DRU performs a mission that does not fit into any of the MAJCOMs. A DRU has many of the same administrative and organizational responsibilities as a MAJCOM (Example of a DRU: USAF Academy).

Enlisted Specialty Training (EST). A mix of formal training (technical school) and informal training (on-the-job) to qualify and upgrade airmen in each skill level of a specialty.

Enterprise: The entire range of communications/networking within garrison and tactical realms to include voice, video, data, imagery and sensor.

Expeditionary Aerospace Force (EAF). The EAF concept is how the Air Force will organize, train, equip, and sustain itself by creating a mindset and cultural state that embraces the unique characteristics of aerospace power – range, speed, flexibility, precision – to meet the national security challenges of the 21st Century.

Exportable Training. Additional training via computer assisted, paper text, interactive video, or other necessary means to supplement training.

Field Operating Agency (FOA). FOAs are subdivisions of the Air Force directly subordinate to a headquarters US Air Force functional manager. An FOA performs field activities beyond the scope of any of the MAJCOMs. The activities are specialized or associated with an Air Force-wide mission.

Field Training. Technical, operator, and other training that either a field training detachment or field training team conducts at operational locations on specific systems and associated direct-support equipment for maintenance and aircrew personnel.

Go/No Go. Go-The stage at which a trainee has gained enough skill, knowledge, and experience to perform the tasks without supervision. Meeting the task standard. No Go -Trainee has not gained enough skill, knowledge, and experience to perform task without supervision. Does not meet task standard.

Initial Skills Training. A formal school course that result in an AFSC 3-skill level award for enlisted or mandatory training for upgrade to qualified officers.

Instructional System Development (ISD). A deliberate and orderly (but flexible) process for planning, developing, implementing, and managing instructional systems. It ensures personnel are taught in a cost efficient way the knowledge, skills, and attitudes essential for successful job performance.

Major Command (MAJCOM). A MAJCOM represents a major Air Force subdivision having a specific portion of the Air Force mission. Each MAJCOM is directly subordinate to HQ USAF. MAJCOMs are interrelated and complementary, providing offensive, defensive, and support elements.

Occupational Survey Report (OSR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFSC.

On-the-Job Training (OJT). Hands-on, over-the-shoulder training conducted to certify personnel in both upgrade (skill level award) and job qualification (duty position certification) training.

Oracle Training Administration (OTA). An HQ AFPC/DPPAT managed computer support system that links Air Force units or activities. This system is used for planning, controlling, and funding formal training throughout the Air Force, including the MAJCOM TDY-to-School Program.

Proficiency Training. Additional training, either in-residence or exportable advanced training courses, or on-the-job training, provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade.

Qualification Training. Hands-on, task performance based training designed to qualify airmen in a specific duty position. This training program occurs both during and after the upgrade training process and is designed to provide skills training required to do the job.

Resource Constraints. Resource deficiencies (such as money, facilities, time, manpower, and equipment) that preclude desired training from being delivered.

Specialty Training Standard (STS). An Air Force publication that describes an Air Force specialty in terms of tasks and knowledge that an airman in that specialty may be expected to perform or to know on the job. Also identifies the training provided to achieve a 3-, 5-, or 7-skill level within an enlisted AFS. It further serves as a contract between AETC and the functional user to show which of the overall training requirements for an Air Force Specialty Code (AFSC) are taught in formal schools and correspondence courses.

Standard. An exact value, a physical entity, or an abstract concept established and defined by authority, custom, or common consent to serve as a reference, model, or rule in measuring quantities or qualities, establishing practices or procedures, or evaluating results. It is a fixed quantity or quality.

System Training Plan (STP). A living document that explains what training is needed for a system and how to obtain the training.

Task Module (TM). A group of tasks performed together within an AFS that require common knowledge, skills, and abilities. TMs are identified by an identification code and a statement.

Total Force. All collective components (active, reserve, guard, and civilian elements) of the United States Air Force.

Training Business Area (TBA). An AF Portal-driven tool suite for managing, tracking, and documenting training activity. TBA formally replaces the web-based predecessor, Integrated Maintenance Data System, as the standard tool communicators use to track and manage training.

Training Capability. The capability of a training setting to provide training on specified requirements, based on the availability of resources.

Training Planning Team (TPT). Comprised of the same personnel as a U&TW, TPTs are more intimately involved in training development and the range of issues examined is greater than in the U&TW forum.

Training Requirements Analysis (TRA). A detailed analysis of tasks for a particular AFSC to be included in the training decision process.

Training Setting. The type of forum in which training is provided (formal resident school, on-the-job, field training, mobile training team, self-study, etc.).

Upgrade Training. Training that leads to the award of a higher skill level.

Utilization and Training Pattern. A depiction of the training provided to and the jobs performed by personnel throughout their tenure within a career field or AFS. There are two types of patterns: 1) Current pattern, which is based on the training provided to incumbents and the jobs to which they have been and are assigned; and 2) Alternate pattern, which considers proposed changes in manpower, personnel, and training policies.

Utilization and Training Workshop (U&TW). A forum of the AFCFM, MAJCOM Functional Managers, subject matter experts (SME), and AETC training personnel that determines career ladder training requirements.

Wartime Tasks. Those tasks that must be taught when courses are accelerated in a wartime environment. They are identified by a "#" in CFETP Part II, Section A, STS. In response to a wartime scenario, these tasks will be taught in the 3- level course in a streamlined training environment. These tasks are only for those career fields that still need them applied to their schoolhouse tasks.

Section A - General Information

1. Purpose of the CFETP. This CFETP provides the information necessary for career field managers, training management, supervisors, and trainers to plan, develop, manage, and conduct an effective and efficient career field training program. The plan outlines the training that individuals in AFSC 3C0X2 should receive in order to develop and progress throughout their careers. For purpose of this plan, training is divided into: initial skills, upgrade, qualification, and continuation training. Initial skills training is the AFS specific training an individual receives upon entering into the AFSC. This training is provided by the 336 Training Squadron (TRS) at Keesler AFB, MS. Upgrade training identifies the mandatory courses, task qualification requirements, and Career Development Course (CDC) completion required for award of the 5-, 7-, or 9-skill level. Qualification training is actual hands-on task performance training designed to qualify an airman in a specific duty position. This training program occurs both during and after the upgrade training process. It is designed to provide the performance skills/knowledge training required to do the job. Continuation training is additional training provided to 3-, 5-, 7-, and 9-level personnel to increase their skills and knowledge beyond the minimum required for upgrade. The CFETP has several purposes, some of which are:

1.1. Serves as a management tool to plan, develop, manage, and conduct a career field training program. Also, ensures that established training is provided at the appropriate point in an individual's career.

1.2. Identifies task and knowledge training requirements for each skill level in the specialty and recommends training throughout each phase of an individual's career.

1.3. Lists training courses available in the specialty, identifies sources of the training, and provides the training medium.

1.4. Identifies major resource constraints that impact implementation of the desired career field training program.

2. Use of the CFETP. The CFETP is maintained by the 3CXXX Air Force Career Field Manager (AFCFM), SAF/XCID. MAJCOM Functional Managers and AETC review the plan annually to ensure currency and accuracy and forward recommended changes to the AFCFM. Using the list of courses in Part II, they determine whether duplicate training exists and take steps to eliminate/prevent duplicate efforts. Career field training managers at all levels use the plan to ensure a comprehensive and cohesive training program is available for each individual in the career ladder.

2.1. AETC training personnel develop/revise formal resident and exportable training based upon requirements established by the users and documented in the STS. They also develop procurement and acquisition strategies for obtaining resources needed to provide the identified training.

2.2. MAJCOM Functional Managers ensure their training programs complement the CFETP mandatory initial skill and upgrade requirements. They also identify the needed AFJQSs/AFQTPs to document unique upgrade and continuation training requirements. Requirements are satisfied through OJT, resident training, contract training, or exportable courseware/courses. MAJCOM developed training to support this AFSC must be included into this plan.

2.3. 81 TRSS Qualification Training Flight (Q-Flight) personnel develop AFJQSs/AFQTPs based on requests submitted by the MAJCOMs and according to the priorities assigned by the Communications-Computer Systems Training Advisory Group (CTAG).

2.4. Unit level training managers and supervisors manage and control progression through the career field by ensuring individuals complete the mandatory training requirements for upgrade specified in this plan and supplemented by their MAJCOM. The list of courses in Part II is used as a reference for planning continuation or career enhancement training.

2.5. Submit recommended CFETP improvements/corrections to the AFSC Training Manager at 336 TRS/TRR, 108 Phantom Drive, Keesler AFB MS 39534-2235 or call DSN 597-5327.

3. Coordination and Approval of the CFETP. The AFCFM is the approval authority. MAJCOM representatives and AETC training personnel coordinate on the career field training requirements. The AFCA executive agent reviews CFETPs for accuracy prior to submission for approval by the AFCFM.

Section B - Career Field Progression and Information

4. Specialty Description. This information supplements that presented in the AFECD. http://ask.afpc.randolph.af.mil/main_content.asp?prods1=1&prods2=14&prods3=591&prods4=1786&prods5=1795 (Part I)

4.1. **Communications-Computer Systems Programming Apprentice/Journeyman/Craftsman (3C032/3C052/3C072)**.

4.1.1. **Specialty Summary.** Supervises and performs as Communications-Computer Systems (C-CS) analysts, coders, testers and managers in the design, development, maintenance, testing, configuration management, and documentation of application software systems, client-server, and web-enabled software and relational database systems critical to war-fighting and intelligence capabilities. Related DoD Occupational Subgroup: 153200.

4.1.2. Duties and Responsibilities:

4.1.2.1. Develops standardized tools and interfaces in accordance with Air Force Network Operations (AFNETOPS) guidance to transform raw data into actionable C2 information. Develops and implements policy to enable effective information discovery, indexing, storage, life-cycle management, retrieval, and sharing in a collaborative enterprise information environment. Harnesses capabilities of systems designed to collect, store, retrieve, process and display data to ensure information dominance.

4.1.2.2. Ensures compliance with DoD directives and standards for security and interoperability. Protects operating systems, application software, files, and databases from unauthorized access to sensitive information, or misuse of communication-computer resources.

4.1.2.3. Determines, analyzes, and develops requirements for software systems through interpreting standards, specifications, and user needs as a system analyst. Determines, designs, and develops data requirements, database structure, process flow, systematic procedures, algorithms, and file structures to implement and maintain software systems using software engineering techniques. Works with systems using software methodologies such as distributed processing, systems networking, advanced information storage and retrieval, and management techniques. Determines and recommends the most reasonable approach in designing new systems or modifying existing systems. Develops and maintains system specifications. Conducts and participates in system reviews and technical interchanges. Selects appropriate software development tools. Explores commercial off-the-shelf options to satisfy user requirements.

4.1.2.4. Translates system specifications and requirements into program code and database structures, implements designed functionality as software coders. Analyzes output products and debugs source code to isolate and correct errors in program logic, syntax, and data entry, and to ensure accuracy and efficiency. Conducts code reviews and unit-level testing. Develops and maintains unit-level test plans. Arranges test data and routines. Modifies existing programs to correct program errors or modifies existing functionality or interface. Prepares system graphical descriptions, standard language statements, workload data, and present and proposed cost. Develops and maintains documentation such as program maintenance manuals and operational guides.

4.1.2.5. Designs, develops, maintains, and executes test plans for formal qualification testing, system integration testing, regression testing and verification, validation and acceptance testing as software testers. Conducts test events. Analyzes software system requirement documents. Develops and maintains test data. Performs analysis of test data, determines test results and develops test reports. Makes recommendations to release authorities concerning verifiability, validity, conformance, and interoperability of software systems.

4.1.2.6. Designs, develops, maintains, and executes processes to manage software or database components, specifications, test plans, procedures and results, and revision history applicable to a software system to ensure systems in use meet user requirements as software configuration managers. Controls software components at all times to ensure availability and stability of documented baselines. Prepares and manages processes for reporting deficiencies and requesting changes to software components or systems. Manages change packages through analysis and development efforts ensuring testing is performed and documentation is created or updated as required. Conducts reviews of proposed change packages by the user community and control authorities. Prioritizes deficiency reports and change requests using guidance from the user community and control authorities. Prepares and maintains software system baseline documentation and procedures. Prepares, packages, and documents deliverable products.

4.1.2.7. As software project manager, interacts with and provides oversight for software system developers and maintainers. Develops and prepares system requirements and proposals. Analyzes requests for information. Prepares documentation of proposal specifications and programs. Organizes system study teams and conducts briefings. Conducts and participates in design reviews and technical interchanges between developers and user representatives. Plans, conducts and reports on the results of system acceptance tests. Manages or participates in the contract management, software quality assurance, or quality assurance evaluation process.

5. Skill/Career Progression. Adequate training and timely progression from the apprentice to superintendent skill levels play an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training do their part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP and the 3C0X2 Education and Training Path able will ensure individuals receive viable training at appropriate points in their careers.

Apprentice (3-Level) Training
Upon completion of initial skills training a trainee will work with a trainer to enhance their knowledge and skills.
Utilize CDCs, AFJQSs/AFQTPs, and other exportable courses to progress in the field.
Once task certified, a trainee may perform the task unsupervised.
Journeyman (5-Level) Training
Enter into continuation training to broaden experience base.
Five-levels may be assigned job positions such as team leader and shift supervisor.
Attend the Airman Leadership School (ALS) after serving 48 months in the Air Force or selection to rank of SSgt (active duty only). In-residence or correspondence course is required for Air National Guard/Air Force Reserve Command (ANG/AFRC) personnel.
Use CDCs and other references identified by the AFCFM to prepare for Weighted Airman Promotion Systems (WAPS) testing.
Should continue pursuing a Community College of the Air Force (CCAF) degree.
Craftsman (7-Level) Training
A seven-level can expect to fill various supervisory and management positions such as shift leader, team chief, supervisor, or task certifier.
Seven-levels should take courses or obtain added knowledge on management of resources and personnel.
Encouraged continuing academic education through CCAF and higher degree programs.
Attend the Noncommissioned Officer Academy (NCOA). In-residence or correspondence course is required for ANG/AFRC personnel.
Superintendent (9-Level) Training
A nine-level can be expected to fill positions such as flight chief, superintendents, and various staff positions.
Should pursue increased knowledge for budget, manpower, resources, and personnel management.
Recommend they pursue additional education and completion of courses outside of their AFSC.
Chief Enlisted Manager (CEM) Training
Must be selected for CMSgt and possess qualifications in a feeder specialty (3C090, 3C191, 3C192, 3C291, or 3C391).
CEMs work in a variety of similar jobs and functional areas where general managerial and supervisory abilities can be most effectively used and challenged.
Resident graduation of the USAF Senior NCO Academy (SNCOA) is a prerequisite for CMSgt sew-on (active duty only). In-residence or correspondence course required for ANG/AFRC personnel.
Resident graduation of the Chief Master Sergeant Leadership Course (CLC).

6. Training Decisions. This CFETP was developed to encapsulate an entire spectrum of training requirements for the Communications-Computer Systems Programming career field, using a building block approach (simple to complex). Included in this spectrum was the strategy of when, where, and how to meet the training requirements. The strategy must be apparent and affordable to reduce duplication of training and eliminate a disjointed approach to training. The following training decisions were made by members of the 24-28 April 2006 Utilization and Training Workshop.

6.1. The forum conducted a comprehensive review of the CFETP. There were major changes to the CFETP with minor impact to the apprentice course. Areas were identified that could possibly be saving impacts if days are required to be deleted from the course. These areas will be reviewed and discussed at a future date

6.2. Under the direction of the CFM, the forum standardized sections one through eleven of the STS. These standardized "common volume tasks" are the same for all 3C AFSCs. As a result of the "common volume", a common volume of CDCs will apply to all 3C AFSCs.

6.3. A listing of mandatory and prerequisite computer base training (CBT) products was consolidated and inserted into 5- and 7- level upgrade training. A complete listing of specific CBT's and skill level completion requirement can be located in Section D – Training Course Index, Exportable Courses.

6.4. Proficiency Training. This training is job qualification for an assigned duty position. Additional qualification training becomes necessary when personnel transfer to another duty position, the unit mission changes, a new personnel program comes on board, or any time changes in techniques or procedures occur.

6.4.1. The 81 TRSS/TSQ (Q-Flight) develops AFJQSs/AFQTPs to support tasks relating to communications-electronics and communications-computer systems, functions, and duties. Completion of AFJQSs/AFQTPs is mandatory by duty position for personnel in upgrade or qualification training. Personnel assigned to a Network Control Center (NCC) performing Network Management duties would use the XXXXX-200C series AFJQS'.

6.5. Seven-Level Upgrade Training Requirements. The forum suggested deleting the requirement for 7-level CDC's during this U&TW.

7. Community College of the Air Force (CCAF) Academic Programs. Enrollment in CCAF occurs upon completion of basic military training. CCAF provides the opportunity for all enlisted members to obtain an Associate in Applied Science degree. In order to be awarded the degree must be completed before the student separates from the Air Force, retires, or is commissioned as an officer. In addition to its associate's degree program, CCAF offers the following:

7.1. Occupational Instructor Certification. The College offers the Occupational Instructor Certification to instructors teaching full time in a CCAF affiliated school. To qualify, instructors must complete a 3 semester hour Instructor Methodology course, a 12 semester hour Teaching Internship, have two years teaching experience from date of Teaching Internship completion, hold an associate or higher degree, and be recommended by their commander/commandant.

7.2. The Computer Science Technology (0CYY) program applies to the 3C0X2 career field.

7.2.1. Degree Requirements: Individuals must hold the 5-skill level at the time of program completion.

	Semester hours
Technical Education	24
Leadership, Management, and Military Studies	6
Physical Education	4
General Education	15
Program Electives	15

Total 64

7.2.2. Technical Education (24 semester hours): A minimum of 12 semester hours of technical core subjects and courses must be applied and the remaining semester hours will be applied from technical core/technical elective subjects and courses. Requests to substitute comparable courses or to exceed specified semester hour values in any subject/course must be approved in advance by the technical branch of the CCAF Administrative Center.

7.2.3. Leadership, Management, and Military Studies (LMMS)(6 semester hours): Professional military education (PME) and/or civilian management courses accepted in transfer and/or by testing credit. See CCAF General Catalog for application of civilian management courses.

7.2.4. Physical Education (4 semester hours): Satisfied upon completion of basic military training.

7.2.5. General Education (15 semester hours): Courses must meet the criteria for application of courses to the General Education requirement and be in agreement with the definitions of applicable General Education subjects/courses as outlined in the CCAF General Catalog.

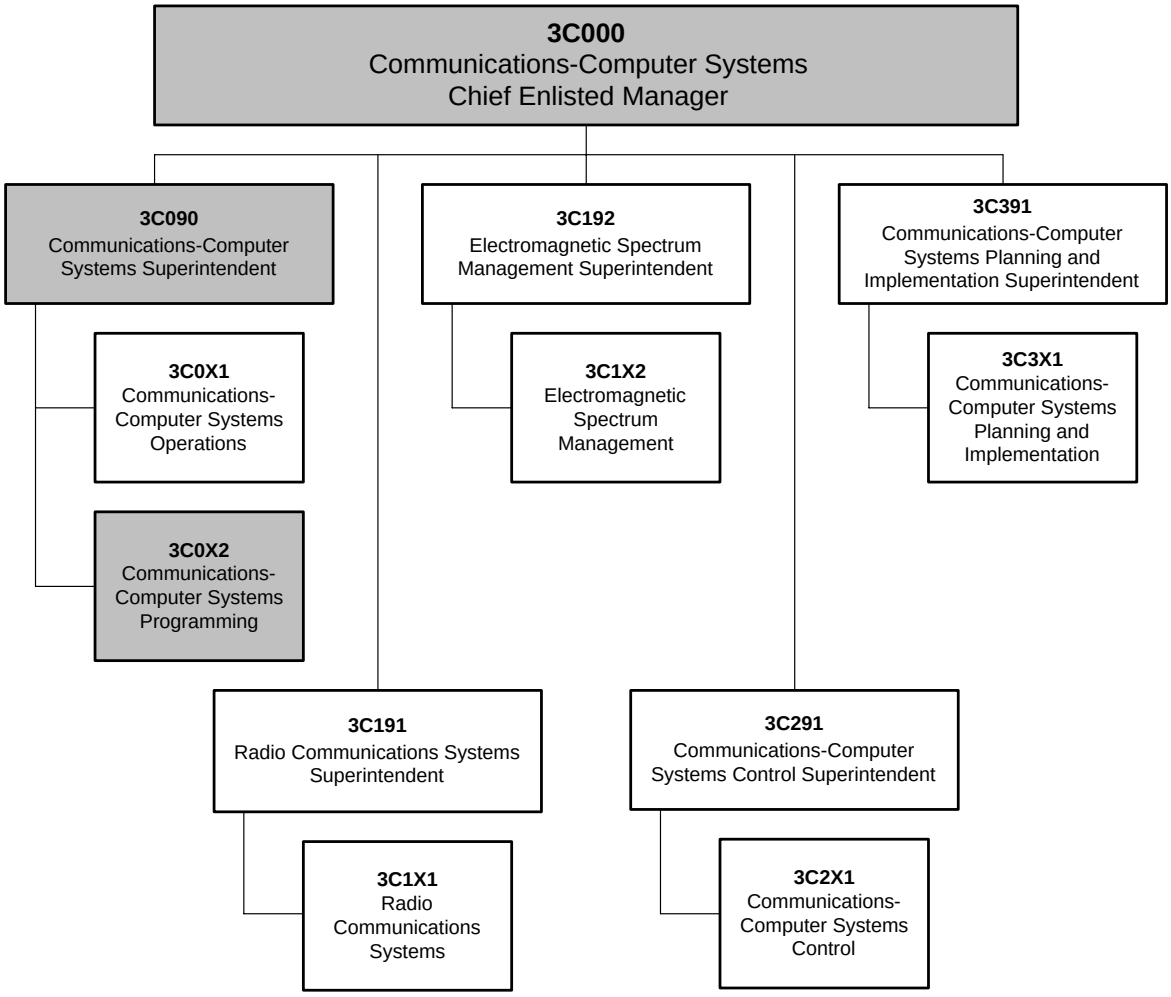
7.2.6. Program Elective (15 semester hours): Courses applying to technical education, LMMS or general education requirements; natural science courses meeting general education requirement application criteria; foreign language credit earned at Defense Language Institute or through the Defense Language Proficiency Test; maximum 6 Semester Hours of CCAF degree-applicable technical course credit otherwise not applicable to program of enrollment.

7.3. See the current CCAF General Catalog for details regarding the Associates of Applied Science in Computer Science Technology. The catalog is available at your education office or from http://www.au.af.mil/au/ccaf/.

7.4. Additional off-duty education is a personal choice that is encouraged for all. Individuals desiring to become an AETC instructor should be actively pursuing an associate degree. A degreed faculty is necessary to maintain CCAF's accreditation through the Southern Association of Colleges and Schools.

8. Career Field Path. The following summarizes career progression and personnel allocations across the career ladder. 3C0XX personnel maintain their individual AFSC identifiers through the rank of MSgt. Upon promotion to SMSgt, AFSCs 3C0X1 and 3C0X2 merge to become a 3C090. At Chief, the 3C090 merges with other 3CXXX 9-level specialties to become a 3C000. Specific demographic information is available on the Web at http://wwa.afpc.randolph.af.mil/demographics/.

3CXXX Career Field Progression



3C0X2, COMMUNICATIONS-COMPUTER SYSTEMS PROGRAMMING
EDUCATION AND TRAINING PATH

EDUCATION AND TRAINING REQUIREMENTS	AVERAGE SEW ON TIME AND COMMENTS
BASIC MILITARY TRAINING SCHOOL	
APPRENTICE TECHNICAL SCHOOL (3-SKILL LEVEL).....Mandatory	Amn..... 6 months
UPGRADE TO JOURNEYMAN (5-SKILL LEVEL) Minimum 15 months OJT training (9 months for retrainees). Complete 5-Level CDCs. .....Mandatory Specific AFJQSs/AFQTPs for equipment at assigned location. .....Mandatory C-CS Management and Generic AFJQSs/AFQTPs for various unit level duties. .....Mandatory AETC Supplemental training courses as determined by MAJCOM .....Optional	A1C ..... 10 months SrA ..... 3 years Earliest ..... 28 Months HYT ..... 12 years
AIRMAN LEADERSHIP SCHOOL (ALS) Attendance is limited to SSgt selectees or those attaining 48 months Total Active Federal Military Service (TAFMS) and who have not been selected for promotion to SSgt. Completion is mandatory before assuming the rank of SSgt. ANG/AFRC may complete by correspondence course. .....Mandatory	TRAINER: Must meet trainer eligibility requirements as per AFI 36-2201 volume 3
UPGRADE TO CRAFTSMAN (7-SKILL LEVEL) Minimum rank of SSgt. 12 months OJT training (6 months for retrainees). Completion of AFQTP 3CXXX-212A, Work Center Supervisor's Handbook. Must be 7-level to sew on TSgt. .....Mandatory C-CS Management and Generic AFJQSs/AFQTPs for various unit level duties. .....Mandatory AETC Supplemental training courses as determined by MAJCOM .....Optional	SSgt ..... 4.03 years Earliest ..... 3 years HYT ..... 20 years TSgt..... 10.36 years Earliest ..... 5 years HYT ..... 24 years CERTIFIER: Must meet certifier eligibility requirements as per AFI 36-2201 volume 3
NONCOMMISSIONED OFFICER ACADEMY (NCOA). Completion is mandatory before assuming the rank of MSgt. .....Mandatory Active duty attendance is limited to TSgt and TSgt selectees. ANG/AFRC SSgt or TSgt may attend in-residence or complete by correspondence course.	MSgt..... 17.78 years Earliest ..... 8 years HYT ..... 26 years

3C0X2, COMMUNICATIONS-COMPUTER SYSTEMS PROGRAMMING
EDUCATION AND TRAINING PATH

EDUCATION AND TRAINING REQUIREMENTS	AVERAGE SEW ON TIME AND COMMENTS
USAF SENIOR NONCOMMISSIONED OFFICER ACADEMY (SNCOA) Attendance is limited to SMSgt, SMSgt selectees, and selected MSgts. Completion is mandatory before assuming the rank of CMSgt. .....Mandatory SNCOA Correspondence Course .....Optional ANG/AFRC may complete by correspondence course. ANG/AFRC MSgts may attend in-residence.....Mandatory	SMSgt ..... 20 years Earliest ..... 11 years HYT ..... 28 years
UPGRADE TO SUPERINTENDENT (9-SKILL LEVEL) Awarded upon sew on of SMSgt.....Mandatory C-CS Management and Generic AFJQSs/AFQTPs for various unit level duties.....Mandatory	CMSgt ..... 22.11 years Earliest ..... 14 years HYT ..... 30 years
CHIEF MASTER SERGEANT LEADERSHIP COURSE (CLC) Attendance is limited to Chief Master Sergeants and Chief Master Sergeant selects. ……..….Mandatory	CMSgt ..... 22.11 years Earliest ..... 14 years HYT ..... 30 years

NOTE 1: Published sew on times are AFSC averages from 2006. Refer to Enlisted Promotions at Air Force Personnel Center for more information: http://ask.afpc.randolph.af.mil/EProm/default.asp?prods3=5&prods2=2&prods1=1

NOTE 2: See Part II, Sections C and D for a list of AFJQSs/AFQTPs and AETC supplemental training.

NOTE 3: All core/duty position tasks must be completed prior to upgrade.

Section C - Skill Level Training Requirements

9. Purpose. The various skill levels in the career field are defined in terms of tasks and knowledge requirements for each skill level in the Communications-Computer Systems Programming career field of the Communications-Computer Systems career ladder. They are stated in broad, general terms and establish the standards of performance. Core tasks, knowledge items, and skill requirements for this specialty are identified in the STS, COL, CDCs, AFJQSs/AFQTPs, etc. Completion of the mandatory 3-level skill awarding course, CDCs and applicable AFJQSs/AFQTPs define the Air Force core tasks for this specialty.

10. Specialty Qualification Requirements.

10.1. **Apprentice (3-Level) Training.**

KNOWLEDGE	System capabilities, limitations, and Programming logic Techniques and procedures of systems analysis and design Related information processing devices and systems C-CS Software methodologies Methods of editing input and output data Configuration management techniques Security practices Customer relations Application of mathematical and analytical concepts to process problems within a C-CS Computer program editing and testing techniques
EDUCATION	Completion of high school with courses in algebra, geometry, and computer science and programming is desirable
TRAINING	Completion of the Apprentice C-CS Programming Specialist course, E3ABR3C032 00AB (PDS Code QOO) (See Part II, Section B for Course Objective List)
EXPERIENCE	None required
OTHER	A minimum score of 71 on the Air Force Electronic Data Processing Test Eligibility for a Secret security clearance according to AFI 31-501, *Personnel Security Program Management*, is mandatory for award and retention of this skill level
IMPLEMENTATION	Attendance at the Apprentice C-CS Programming Specialist course is mandatory for award of the 3-skill level unless waived by the 3CXXX AFCFM

10.2. **Journeyman (5-Level) Training.**

KNOWLEDGE	All 3C032 knowledge qualifications apply to the 3C052 requirements Completion of the 3C052 Career Development Course
TRAINING	No mandatory AETC training courses are required for upgrade.
EXPERIENCE	Qualification in and possession of AFSC 3C032 Experience performing programming functions such as designing, coding, testing, or documenting software Completion of all STS core tasks Completion of applicable AFJQSs/AFQTPs Completion of all local tasks assigned for the duty position
OTHER	Eligibility for a Secret security clearance according to AFI 31-501, *Personnel Security Program Management*, is mandatory for award and retention of this skill level
IMPLEMENTATION	Entry into formal journeyman upgrade training is accomplished once individuals are assigned to their first duty station. Qualification training is initiated anytime individuals are assigned duties for which they are not qualified. Use CDCs, CBTs and AFJQSs/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training.

10.3. **Craftsman (7-Level) Training.**

KNOWLEDGE	All 3C052 knowledge qualifications apply to the 3C072 requirements Completion of AFQTP 3CXXX-212A, Work Center Supervisor's Handbook
TRAINING	No mandatory AETC training courses are required for upgrade
EXPERIENCE	Qualification in and possession of AFSC 3C052 Experience performing or supervising one of the functions of programming, such as preparing system requirements developing high –level or detailed designs translating designs into code, testing, configuration management, or project management. Completion of all STS core tasks Completion of the 3C072 Career Development Course Completion of applicable AFJQSs/AFQTPs Completion of all local tasks assigned for the duty position
OTHER	Eligibility for a Secret security clearance according to AFI 31-501, *Personnel Security Program Management*, is mandatory for award and retention of this skill level
IMPLEMENTATION	Entry into OJT is initiated when individuals obtain the necessary rank and skill level. Qualification training is initiated anytime an individual is assigned duties for which they are not qualified. Use CDCs and AFJQSs/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training.

10.4. **Superintendent (9-Level) Training.**

KNOWLEDGE	Techniques and procedures of systems analysis and design Software methodology Communications-computer processing System operation and maintenance System and equipment capability, capacity, and logic Performance measurement, security, and resource management
TRAINING	No mandatory AETC training courses are required for upgrade.
EXPERIENCE	Qualification in and possession of AFSC 3C071 or 3C072 Directing functions such as systems analysis or design, software development, teleprocessing systems operations and maintenance, C-CS security, or resource management
OTHER	Eligibility for a Secret security clearance according to AFI 31-501, *Personnel Security Program Management*, is mandatory for award and retention of this skill level
IMPLEMENTATION	Entry into OJT is initiated when individuals are selected for the rank of SMSgt. Qualification training is initiated anytime individuals are assigned duties for which they are not qualified. Completion of CDCs associated with related 3C0XX career fields is recommended.

10.5. Training Sources.

10.5.1. AFSC specific training – 336 TRS, Keesler AFB, MS at https://www.my.af.mil/faf/FAF/fafHome.jsp

10.5.2. CDCs 3C052 are available for upgrade purposes through the unit training manager. For individual qualification and cross-utilization training, CDCs are ordered through the unit training office.

10.5.3. AFJQSs/AFQTPs are Air Force publications and are mandatory for use by personnel in upgrade or qualification training. They are developed by the 81 TRSS (Q-Flight), Keesler AFB, MS and may be downloaded from https://wwwmil.keesler.af.mil/81trss/qflight/index.htm Procedures for requesting development of AFJQSs/AFQTPs are contained in AFI 36-2233, *Air Force On-the-Job Training Products for Communications-Electronics Enlisted Specialty Training*. AFJQSs/AFQTPs are listed in Part II, Section C, of this CFETP.

Section D - Resource Constraints

11. Purpose. This section identifies known resource constraints that preclude optimal/desired training from being developed or conducted, including information such as part numbers, national stock numbers, number of units required, cost, manpower, etc. Included are narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training. Finally, this section includes actions required, OPR, and target completion date. Resource constraints will be, at a minimum, reviewed and updated annually.

12. Apprentice (3-Level) Training.

12.1. Constraints: None.

12.1.1. Impact. N/A

12.1.2. Resources Required. N/A

12.1.3. Action Required. N/A

12.2. OPR/Target Completion Date. N/A

13. Journeyman (5-Level) Training.

13.1. Constraints: None.

13.1.1. Impact. N/A

13.1.2. Resources Required. N/A

13.1.3. Action Required. N/A

13.2. OPR/Target Completion Date. N/A

14. Craftsman (7-Level) Training.

14.1. Constraints: None.

14.1.1. Impact. N/A

14.1.2. Resources Required. N/A

14.1.3. Action Required. N/A

14.2. OPR/Target Completion Date. N/A

Section E - Transition Training Guide

There are currently no transition training requirements. This area is reserved.

PART II

Section A - Specialty Training Standard

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level class beginning 20071105 and graduating 20080201.

2. Purpose. As prescribed in AFI 36-2201, Vol 5, this STS:

2.1. Lists in column 1 (Task, Knowledge, and Technical Reference) the most common tasks, knowledge, and technical references (TR) necessary for airman to perform duties in the 3-, 5-, and 7-skill level. Column 2 (Core Tasks) identifies, by asterisk (*), specialty-wide training requirements. NOTE: Core tasks are minimum task training requirements for upgrade to the 5-skill level.

2.2. Provides certification for OJT. Column 3 is used to record completion of tasks and knowledge training requirements. Use automated training management systems to document technician qualifications, if available. For initial certification or transcribing documentation complete the columns in accordance to AFI 36-2201, vol 3, para 7.8.

2.3. Shows formal training and correspondence course requirements. Column 4 shows the proficiency to be demonstrated on the job by the graduate as a result of training on the task/knowledge and the career knowledge provided by the correspondence course. See the AFIADL Catalog maintained at http://www.maxwell.af.mil/au/afiadl/ for current CDC listings.

2.4. Qualitative Requirements. Attachment 1 contains the proficiency code key used to indicate the level of training and knowledge provided by resident training and career development courses.

2.5. Becomes a job qualification standard (JQS) for on-the-job training when placed in AF Form 623, *Individual Training Record* folder, and used according to AFI 36-2201, Vol 3.

2.6. Is a guide for development of promotion tests used in the Weighted Airman Promotion System (WAPS). Specialty Knowledge Tests (SKT) are developed at the USAF Occupational Measurement Squadron by senior NCOs with extensive practical experience in their career fields. The tests sample knowledge of STS subject matter areas judged by test development team members as most appropriate for promotion to higher grades. Questions are based upon study references listed in the WAPS Individual responsibilities are listed in chapter 1 of AFI 36-2605, *Air Force Military Personnel Testing System*. WAPS is not applicable to the Air National Guard or Air Reserve Forces.

3. Recommendations. Comments and recommendations are invited concerning the quality of AETC training. A Training Feedback Hotline has been installed for the supervisors' convenience. For a quick response to concerns, call our Training Feedback Hotline at DSN 597-4566, fax us at DSN 597-3790, or e-mail us at 81trg-tget@keesler.af.mil. Reference this STS and identify the specific area of concern (paragraph, training standard element, etc).

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

MICHAEL W. PETERSON, Lieutenant General, USAF
Chief Warfighting Integration\Chief Information officer

Attachment:
3C0X2 Specialty Training Standard

PREFACE

NOTE 1: Users are responsible for annotating technical references to identify current references pending STS revision. Locate current Air Force publications at:

DOD Issuances and OSD Administrative Instructions at http://www.dtic.mil/whs/directives/
Air Force publications at http://www.e-publishing.af.mil/.
AFSSIs at https://private.afca.af.mil/ip/
DISA Circulars and Instructions at http://www.disa.mil/main/about/publications.html
Technical Orders (TO) at https://www.toindex-s.wpafb.af.mil/
Online ReferenceWare and CBTs: https://www.my.af.mil/faf/FAF/fafHome.jsp (Under IT E-Learning)

NOTE 2: Knowledge and/or performance tasks are defined in the AFJQS. AFJQS items set the standard for qualification and certification and are mandatory for use in conjunction with this STS when applicable to the duty position.

NOTE 3: AFQTP 3CXXX-212A, Work Center Supervisor's Handbook is mandatory for upgrade to the 7-skill level in all 3CXXX career fields.

NOTE 4: All objectives are trained during wartime.

NOTE 5: Effective 1 May 2005, commanders, supervisors, and trainers will use IMDS to track and manage all training for all Communications and Information personnel. Military assigned to positions with the following AFSCs: 33SX, 3V, 3A, 3C, 2E, and 8M. Use of IMDS is required IAW with policy set by SAF\XCID and applicable Career Field Education and Training Plans (CFETPs). Ensure all 3C personnel training records are loaded and managed in IMDS.

NOTE 6: Upon base specific implementation of TBA, all members requiring training records will transition from documenting training of this CFETP, associated AFJQSs and AFQTPs from IMDS to TBA.

NOTE 7: When an AFJQS is loaded into TBA, the AFJQS identifier is displayed in the task statement (e.g., AFJQS-2EXXX-200B-001.001). When loaded to TBA, AFJQS task numbering will vary from the CTG. The numbering scheme is defined by your workcenter specific master training plan.

NOTE 6: Third person certification is waived for all communications-computer personnel, in accordance with AFI 36-2201, vol III. However, members (to include civilians and contractors) assigned to crew positions are still required position certification through Standards-and-Evaluation processes in accordance 33-115 vol II.

PROFICIENCY CODE KEY		
	SCALE VALUE	DEFINITION: The individual
Task Performance Levels	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (EXTREMELY LIMITED)
	2	Can do most parts of the task. Needs help only on hardest parts. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (HIGHLY PROFICIENT)
***Task Knowledge Levels**	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can determine step by step procedures for doing the task. (PROCEDURES)
	c	Can identify why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, isolate, and resolve problems about the task. (ADVANCED THEORY)
****Subject Knowledge Levels**	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)

EXPLANATIONS

* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Examples: b and 1b)

** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task or for a subject common to several tasks.

\- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or CDC.

X This mark is used alone in course columns to show that training is required, but not given, due to limitations in resources.

The identification blocks listed below are to be used to list all personnel authorized to sign off tasks in Part II of the CFETP, including automated CFETP's as per AFI 36-2201, Vol 3.

THIS BLOCK IS FOR IDENTIFICATION PURPOSES ONLY Personal Data – Privacy Act of 1974		
PRINTED NAME OF TRAINEE *(Last, First, Middle Initial)*	INITIALS *(Written)*	SSN
PRINTED NAME OF TRAINER AND CERTIFYING OFFICIAL AND WRITTEN INITIALS		
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
1. COMMUNICATIONS-COMPUTER SYSTEMS (C-CS) CAREER FIELD TR: AFH 33-337; AFI 10-401, 33-115 Vol 1, 2 & 3; AFI 36-2101; 3C0X2 CFETP	*											
1.1. Structure							A			A	-	-
1.2. Progression within Air Force Specialty Code (AFSC)							A			A	-	-
1.3. Air Force Specialty Code (AFSC)												
1.3.1. Duties							A			A	-	-
1.3.2. Responsibilities							A			A	-	-
1.3.3. Qualifications							A			A	-	-
1.3.4. Customer relations							A			A	-	-
1.3.5. Associated Communications & Information (C&I) AFSCs							A			A	-	-
1.4. Roles and Mission							A			A	-	-
1.5. Communications squadron organizational structure							A			A	-	-
1.6. Air and Space Expeditionary Force (AEF)												
1.6.1. Unit Type Code (UTC) (eg. 6KNZA)	*						A			B	-	-
1.6.2. Equipment (eg. LOGDET)							A			B	-	-
1.6.3. Personnel (eg. MANFOR)							A			B	-	-
2. SUPERVISION TR: AFI 36-2618; AFQTP 3CXXX-212A												
2.1. Brief Newly Assigned Personnel TR: AFI 36-2110												
2.1.1. Safety							-			-	-	-
2.1.2. Mission							-			-	-	-
2.1.3. Responsibilities							-			-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
2.1.4. Recognition programs TR: AFI 36-2845							-			-	-	-
2.2. Interpret for Subordinates												
2.2.1. Policies							-			-	-	-
2.2.2. Directives							-			-	-	-
2.2.3. Procedures							-			-	-	-
2.3. Plan and Schedule												
2.3.1. Work assignments							-			-	-	-
2.3.2. Shifts							-			-	-	-
2.3.3. Priorities							-			-	-	-
2.4. Establish												
2.4.1. Work methods							-			-	-	-
2.4.2. Controls							-			-	-	-
2.4.3. Performance standards							-			-	-	-
2.5. Brief Subordinates on Local and Standard Procedures							-			-	-	-
2.6. Identify												
2.6.1. Personnel requirements							-			-	-	-
2.6.2. Equipment requirements							-			-	-	-
2.7. Resolve Technical Problems Encountered by Subordinates							-			-	-	-
2.8. Observe Equipment Operation to Ensure Conformance with Established Standards							-			-	-	-
2.9. Operating Instructions												
2.9.1. Prepare local operating procedures							-			-	-	-
2.9.2. Issue							-			-	-	-
2.9.3. Review							-			-	-	-
2.10. Facility Maintenance												

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
2.10.1. Plan							-			-	-	-
2.10.2. Schedule							-			-	-	-
2.10.3. Supervise							-			-	-	-
2.11. Self-Inspections/ Quality Indicators TR: AFI 90-201; MAJCOM DIRECTIVES												
2.11.1. Prepare							-			-	-	-
2.11.2. Review							-			-	-	-
2.11.3. Issue							-			-	-	-
2.11.4. Conduct							-			-	-	-
2.11.5. Follow-up							-			-	-	-
2.12. Develop Budget Input												
2.12.1. Analyze costs and utilization							-			-	-	-
2.12.2. Create budget							-			-	-	-
2.13. Manpower/personnel							-			-	-	-
3. TRAINING TR: AFCAT 36-2223; AFIs 33-115; 36-2201, 36-2233; AFMANs 36-2236, 36-2245, 36-2247; AFQTP 3CXXX-212A												
3.1. Evaluate Personnel for Need of Training							-			-	-	-
3.2. Enlisted Specialty Training (EST) Management							-			-	-	-
3.2.1. Prepare local job qualification standard (JQS)							-			-	-	-
3.2.2. Procure training material							-			-	-	-
3.2.3. Develop training materials							-			-	-	-
3.2.4. Counsel trainees on training progress							-			-	-	-
3.2.5. Monitor effectiveness of:												
3.2.5.1. Career knowledge upgrade training progress							-			-	-	-
3.2.5.2. Job proficiency upgrade training							-			-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
3.2.5.3. Qualification training							-			-	-	-
3.3. Maintain Training Records (e.g. IMDS)							-			-	-	-
4. OPERATIONAL RISK MANAGEMENT (ORM) TR: AFIs 90-901, 91-301, 91-302; AFOSH STDs 91-50, 91-64	*											
4.1. Hazards of the AFSC							A			B	-	-
4.2. AFOSH Standards for AFSC							-			A	-	-
4.3. Use Consistent Safety Practices							-			-	-	-
4.4. Electrostatic discharge (ESD)							A			A	-	-
4.5. Maintain Clean Work Environment							A			-	-	-
5. C-CS ADMINISTRATIVE FUNCTIONS TR: AFINDs 2, 5, 8; AFIs 33-Series; AFMAN 37-139												
5.1. Publications												
5.1.1. Chairman of Joint Chief of Staff (CJCS) publications							-			A	-	-
5.1.2. Air Force Manuals (AFMAN)							-			A	-	-
5.1.3. Air Force Policy Directives (AFPD)							-			A	-	-
5.1.4. Air Force Instructions (AFI)							A			A	-	-
5.1.5. Air Force Pamphlets (AFPAM)							-			A	-	-
5.1.6. Joint Army Navy Air Force Publications (JANAP)							-			A	-	-
5.1.7. Allied Communications Publications (ACP)							-			A	-	-
5.1.8. Operating Instructions (OI)							-			A	-	-
5.1.9. Commercial/vendor publications							A			A	-	-
5.1.10. DISA Publications							-			A	-	-
5.1.11. Technical Orders (TO)							-			A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
5.1.12. Military Standard (MIL STD)							A			A	-	-
5.1.13. Communication Act of 1934 TR: ACP 121/US SUP 2; ACP 125							A			-	-	-
5.1.14. Air Force Tactics, Techniques, and Procedures TR: AFTTP. 3-1.36 (S)							-			-	-	-
5.1.15. Air Force Network Operating Instruction (AFNOI) TR: 33-115 Vol 3							-			A	-	-
5.2. Publications Handling												
5.2.1. Order documents and changes							-			-	-	-
5.2.2. Post changes							-			-	-	-
5.3. Locate Procedures (e.g. Pubs, AFNOI, T.O., etc…)	*						b			-	-	-
5.4. Supply Functions												
5.4.1. Maintain accounts							-			-	-	-
5.4.2. Keep records							-			-	-	-
5.5. Equipment Records							-			-	-	-
5.6. Software (e.g. license management)							-			B	-	-
6. C4I SECURITY TR: ACP 122; AFDIR 33-303; AFIs 33-110, 33-129, 33-206, 33-219, 33-332; AFKAG-1&2; AFMAN 33-326; AFSSI 5021; DISAC 310-90-1; DOD 5200.1-R												
6.1. Operations Security (OPSEC) TR: AFI 10-701; AFPD 10-11												
6.1.1. Definition	*						A			A	-	-
6.1.2. Background							-			A	-	-
6.1.3. Relationship of OPSEC to other security programs							-			B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
6.1.4. Vulnerabilities							A			A	-	-
6.1.5. Critical information							A			A	-	-
6.1.6. Data/Information aggregation							-			A	-	-
6.2. Information Security TR: AFI 31-401, 33-332; AFPDs 31-4, 33-2; AFSSI 5009												
6.2.1. Definition	*						A			A	-	-
6.2.2. Classification process							-			-	-	-
6.2.3. Declassification process							-			-	-	-
6.2.4. Information safeguards												
6.2.4.1. Unclassified												
6.2.4.1.1. Privacy Act							A			A	-	-
6.2.4.1.2. For Official Use Only (FOUO) TR: AFSSI 5009							A			A	-	-
6.2.4.1.3. Sensitive Unclassified							A			A	-	-
6.2.4.2. Classified							A			B	-	-
6.2.4.3. Identify insecurities	*						a			b	-	-
6.2.4.4. Report insecurities	*						a			b	-	-
6.3. Communications Security (COMSEC) TR: AFIs 33-201V1, 33-201V2; AFPD 33-2												
6.3.1. Definition	*						A			A	-	-
6.3.2. Vulnerabilities							-			A	-	-
6.3.3. Critical information							-			B	-	-
6.3.4. Safeguarding information							A			B	-	-
6.3.5. Identify insecurities	*						a			A	-	-
6.3.6. Report insecurities	*						a			A	-	-
6.3.7. COMSEC equipment security							A			A	-	-
6.3.8. COMSEC equipment use												

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
6.3.8.1 On-line operation							-			-	-	-
6.3.8.2. Off-line operation							-			-	-	-
6.4. Emission Security (EMSEC) TR: AFI 33-203; AFPD 33-2												
6.4.1. Definition	*						A			A	-	-
6.4.2. Vulnerabilities							A			A	-	-
6.4.3. Identify insecurities	*						a			a	-	-
6.4.4. Report insecurities	*						a			a	-	-
6.5. Computer Security (COMPUSEC) TR: AFIs 33-202, 33-207; AFPD 33-2												
6.5.1. Definition	*						A			A	-	-
6.5.2. Vulnerabilities							A			A	-	-
6.5.3. Processing classified information							-			A	-	-
6.5.4. Identify security violations	*						a			a	-	-
6.5.5. Report security violations	*						a			a	-	-
6.5.6. Risk analysis							-			B	-	-
6.5.7. Accreditation							-			B	-	-
6.5.8. Certification							-			B	-	-
6.5.9. Control access							-			-	-	-
6.5.10. Conduct audit							-			-	-	-
6.6. Physical Security TR: AFI 31-101; AFPD 31-1												
6.6.1. Definition	*						A			A	-	-
6.6.2. Secure area access management							A			-	-	-
6.6.3. Facility security requirements							-			-	-	-
6.6.4. Identify violations procedures	*						a			a	-	-
6.6.5. Report violations procedures	*						a			a	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
6.6.6. Classified material control												
6.6.6.1. Storage							-			B	-	-
6.6.6.2. Shipment							-			B	-	-
6.6.6.3. Handling							-			B	-	-
6.6.6.4. Destruction							-			B	-	-
6.6.6.5. Classified waste							-			B	-	-
6.7. Information Assurance TR: AFI 33-204												
6.7.1. Definition	*						A			A	-	-
6.7.2. Threats and vulnerabilities							-			B	-	-
6.7.3. Identify insecurities	*						a			a	-	-
6.7.4. Report insecurities	*						a			a	-	-
6.7.5. Protective measures							-			A	-	-
6.8. Information Operations Conditions (INFOCONS)							A			B	-	-
7. IT Fundamentals TR: AFDIR 33-303; AFIs 33-110, 33-113, 33-114												
7.1. Communications Topology							-			A	-	-
7.2. Communication Network Devices												
7.2.1. Terminal equipment							-			A	-	-
7.2.2. Modems							-			A	-	-
7.2.3. Line drivers							-			A	-	-
7.2.4. Converters							-			A	-	-
7.2.5. Gateways							-			A	-	-
7.2.6. Switches							-			A	-	-
7.2.7. Hub							-			-	-	-
7.2.8. Encryption (e.g. Data and Voice)							-			A	-	-
7.2.9. Multiplexers							-			A	-	-
7.2.10. Bridges/routers							-			A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
7.3. Communications/ Network Protocols												
7.3.1. International Standards Organization (ISO) Open Systems Interconnect (OSI) Model							A			B	-	-
7.3.2. Department of Defense (DoD) Standards Protocol							A			B	-	-
7.3.3. Communication through TCP/IP							A			B	-	-
7.3.4. Ports (IP)							A			A	-	-
7.3.5. IPV4/IPV6							A			A	-	-
7.3.6. Voice Over Internet Protocol (VoIP)							A			A	-	-
8. SPECTRUM CONCEPTS TR: AFI 33-118 and AFMAN 33-120.												
8.1. Propagation theory							-			A	-	-
8.2. Electromagnetic environment							-			A	-	-
8.3. Consideration							-			A	-	-
8.4. Signal Concepts												
8.4.1. Signal characteristics							-			A	-	-
8.4.2. Signal rate							-			A	-	-
9. C-CS COMPONENTS TR: AFDIR 33-303; AFIs 33-110, 33-113, 33-114; IEEE/EIA 12207, 12207.0, 12207.1	*											
9.1. Hardware (e.g. CPU, Memory, Hard disks, etc…)							A			-	-	-
9.2. Software												
9.2.1. Operating systems							A			B	-	-
9.2.2 Application software (eg. Word, Database)							A			-	-	-
9.3. Internal Data Representation							A			A	-	-
10. INFORMATION OPERATIONS TR: USC TITLE 10, 18, and 50; Joint Information Doctrine (Joint Pub 3-13); AF Information Operations Doctrine 2-5												
10.1. Definitions							-			A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
10.2. Policies and Directives							-			-	-	-
10.3. Functions							-			-	-	-
11. C4ISR PLATFORMS TR: AFMAN 10-100, MAJCOM and Local Directives												
11.1. Air Operations Centers							-			A	-	-
11.2. Battlefield Control System							-			A	-	-
11.3. Air Support Operations Squadrons							-			A	-	-
11.4 Airborne Platforms							-			A	-	-
11.5. Unmanned Aerial Vehicles (UAV)							-			A	-	-
11.6. Force Modules (eg. TDC)							-			A	-	-
12. DESIGNING COMPUTER ROUTINES AND PROGRAMS` TR: TR: AFIs 33-101, 33-110, 33-114; AFMAN 33-105; IEEE/EIA 12207, 12207.0, 12207.1, Section 508 (29 U.S.C. 794d)												
12.1. Software Engineering												
12.1.1. Goals and principles	*						A			B	-	-
12.1.2. Use software engineering tools	*						2b			-	-	-
12.1.3. Apply software engineering principles							-			-	-	-
12.2. Problem Solving	*											
12.2.1. Define problem							2b			b	-	-
12.2.2. Problem solution statements							2b			b	-	-
12.2.3. Develop problem solution							2b			b	-	-
12.3. Object Oriented Software Engineering	*											
12.3.1. Concepts							A			B	-	-
12.3.2. Analysis							A			B	-	-
12.3.3. Design							A			B	-	-
12.3.4. Programming							2b			-	-	-
12.4. Design Algorithms	*											

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
12.4.1. Sequential design							2b			b	-	-
12.4.2. Conditional primitives							2b			b	-	-
12.4.3. Iterative primitives							2b			b	-	-
12.4.4. Formula interpretation							2b			b	-	-
12.4.5. Data manipulation							2b			b	-	-
12.4.6. Exception handling							2b			b	-	-
12.5. Prepare Graphic Representations of design	*						2b			b	-	-
13. PREPARING, TESTING, AND DOCUMENTING COMPUTER ROUTINES AND PROGRAMS TR: AFIs 33-101, 33-104, 33-108, 33-114; AFMAN 33-105; IEEE/EIA 12207, 12207.0, 12207.1; TAFIM Vol 3	*											
13.1. Develop Structured Code							2b			b	-	-
13.2. Error Correction												
13.2.1. Data entry							2b			B	-	-
13.2.2. Data validation							2b			-		
13.2.3. Syntax							2b			B	-	-
13.2.4. Logic							2b			B	-	-
13.3. System Interfaces							2b			B	-	-
13.4. Develop user interfaces (e.g. graphical/Web base)							2b			-	-	-
13.5. Create/update software documentation												
13.5.1. Software system documentation							2b			B	-	-
13.5.2. User documentation							A			B	-	-
13.6. Validate software systems												
13.6.1. Prepare a test plan							2b			B	-	-
13.6.2. Prepare test data							2b			B	-	-
13.6.3. Review output products												
13.6.3.1. Compliance with specifications							2b			B	-	-
13.6.3.2. Compliance with standards							2b			B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
13.6.4. Validate against user requirements							2b			B	-	-
13.7. Software security practices							A			B	-	-
14. ANALYZING AND UPDATING EXISTING PROGRAMS TR: AFIs 33-113, 33-114; AFMAN 33-105	*											
14.1. Maintenance Concepts												
14.1.1. Corrective							A			B	-	-
14.1.2. Enhancement							A			B	-	-
14.1.3. Redesign							A			B	-	-
14.2. Analyze Existing Systems							2b			B	-	-
14.3. Modify Software							2b			B	-	-
14.4. Revalidate Software Systems							2b			B	-	-
15. SOFTWARE REUSE TR: AFIs 33-101, 33-104; AFMAN 33-105												
15.1. Reusable Software Components												
15.1.1. Develop							2b			B	-	-
15.1.2. Use							2b			B	-	-
15.1.3. Maintain							2b			B	-	-
15.2. Software Support Libraries												
15.2.1. Development of library modules							B			B	-	-
15.2.2. Use							2b			B	-	-
15.2.3. Maintain							B			B	-	-
16. DESIGNING AUTOMATED DATA SYSTEMS TR: AFIs 33-101, 33-104, 33-114; AFMAN 33-105												
16.1. Evaluate User Requirements	*						A			B	-	-
16.2. Document Flow Analysis							-			B	-	-
16.3. Feasibility Studies							-			B	-	-
16.4. Open Systems Architecture							A			B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED					
		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
17. SOFTWARE LIFE CYCLE TR: AFIs 33-104, 33-112, 33-113, 33-114; IEEE/EIA 12207, 12207.0, 12207.1												
17.1. Monitor Contracts							-			A	-	-
17.2. Software Acquisition							-			A	-	-
17.3. Configuration Management	*						A			B	-	-
17.4 Software Versioning							-			A	-	
17.5. Apply Software Quality Metrics							-			A	-	-
17.6. Software Life Cycle Management (eg. CMM, RUP, Extreme, RAD, Agile)	*						A			B	-	-
17.7. Acceptance Testing							A			B	-	-
17.8. Software Process Improvement							A			A	-	-
18. DATABASE TR: AFI 33-110	*											
18.1. Data Elements/ Structure							A			B	-	-
18.2. Design												
18.2.1. Logical							A			B	-	-
18.2.2. Physical							A			B	-	-
18.2.3. Security							A			B	-	-
18.2.4. Normalization							-			B	-	-
18.3. Create							2b			-	-	-
18.4. Modify							2b			-	-	-
18.5. Access Methods												
18.5.1. Retrieve data							2b			B	-	-
18.5.2. Update data							2b			B	-	-
18.5.3. Views							2b			B	-	-
18.5.4. Maintenance							1b			B	-	-
19. WEB FUNDAMENTALS TR: AFI 33-119, 33-129, U.S.C. Title Sec 508	*											
19.1. Language (e.g. CGI, HTML, XML, JavaScript, Java, .NET)							A	-		B	-	-
19.2. Web Security												
19.2.1. Public Key Infrastructure							A	-		B	-	-

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		A	B	C	D	E	A 3 SKILL LEVEL		B 5 SKILL LEVEL		C 7 SKILL LEVEL	
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	(1) Course	(2) CDC	(1) Course	(2) CDC	(1) Course	(2) CDC
19.2.2. Secure Socket Layer							A	-		B	-	-
19.3. Web application												
19.3.1. Model View Control pattern							A			-	-	-
19.3.2. Create							2b			-	-	-
19.3.3 Session Management							2b			-	-	-
19.4. Web Services							A			-	-	-
200. AIR FORCE JOB QUALIFICATION STANDARDS APPLICABLE TO AFSC 3C0X2. TR: AFI 36-2233, CFETP 3C0X2 (See Note 2)												
200.14. AFJQS XXXXX-200N, DoD 8570 IA Workforce Improvement Program												
212.1. AFQTP 3CXXX-212A, Work Center												
212.1.1. AFQTP 3CXXX-212A, Work Center Supervisor's Handbook (See Note 3)												
212.2. C4 Systems Technology												
212.2.1. AFQTP 3CXXX-212B, C4 Systems Technology Handbook												
212.3. C4 Information Systems												
212.3.1. AFQTP XXXXX-212C, C4 Information Systems Familiarization Handbook												

Section B - Course Objective List

4. Measurement. Each objective is indicated as follows: W indicates task or subject knowledge which is measured using a written test, PC indicates required task performance which is measured with a performance progress check, and PC/W indicates separate measurement of both knowledge and performance elements using a written test and a progress check.

5. Standard. The standard is 70% on written examinations. Standards for performance measurement are indicated in the objective and delineated on the individual progress checklist. Instructor assistance is provided as needed during the progress check, and students may be required to repeat all or part of the behavior until satisfactory performance is attained.

6. Proficiency Level. Most task performance is taught to the "2b" proficiency level which means the student can do most parts of the task, but does need assistance on the hardest parts of the task (partially proficient). The student can also determine step by step procedures for doing the task.

7. Course Objectives. These objectives are listed in the sequence taught by Block of Instruction. Because the communications career field is ever changing, we are providing a website with a "living" course objective list (COL). As changes are made to the courses they will also be made to the website. Use the following link to get started, and then navigate to the COL by selecting the 81 TRW, 81 TRG, and finally the 336 TRS to locate the COL for the C-CS Programming courses. https://wwwmil.keesler.af.mil/.

Section C - Support Materials

8. The following list of support materials is not all-inclusive; however, it covers the most frequently referenced areas. The most current products can be found at the 81 TRSS/TSQ web page, and are available for download from the web site at https://wwwmil.keesler.af.mil/81trss/qflight/index.htm. These training products are also listed in AFIND 8, though not as current. Procedures for requesting product development are found in AFI 36-2233.

8.1. Generic AFJQSs/AFQTPs applicable to AFSC 3C0X2:

Publication No.	Pseudo File Code	Publication Title
AFQTP 3CXXX-212A	N/A	Work Center Supervisor's Handbook
AFQTP 3CXXX-212B	N/A	C4 Systems Technology Handbook
AFQTP XXXXX-212C	N/A	C4 Information Systems Familiarization Handbook

Section D - Training Course Index

9. Purpose. This section of the CFETP identifies training courses available for continuation/ supplemental training. For information on all formal courses, refer to the Air Force Education and Training Course Announcements (ETCA) database, formerly AFCAT 36-2223, *USAF Formal Schools Catalog* at https://etca.randolph.af.mil/

10. Air Force In-Residence Courses.

Course Number	Course Title	Location
E3ABR3C032 00AB	Communications-Computer Systems Programming Apprentice	Keesler

11. Air Force Institute for Advanced Distributed Learning (AFIADL) Courses.

For a current listing of AFIADL courses go to http://www.maxwell.af.mil/au/afiadl/.

12. Exportable Courses.

For a current list of the available CBT courses refer to https://www.my.af.mil/faf/FAF/fafHome.jsp (Under "Top Viewed: Training" IT E-Learning)

Section E - MAJCOM Unique Requirements

13. There are currently no MAJCOM unique requirements. This area is reserved.